

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A porous film with chemical resistance, comprising a porous film base comprising a multiplicity of communicating micropores having an average pore size of 0.01 μm or more and 5 μm or less and produced by a phase conversion method in which mixtures containing the polymers are cast as films and then introduced to solidifying liquids, and a chemical-resistant polymeric compound covering the porous film base, wherein:

~~the porous film comprises a multiplicity of communicating micropores;~~

~~the micropores have an average pore size of 0.01 to 10 μm ;~~

an average rate of open pores inside the porous film (porosity) is 30% to 80%;

an amount of the coat of the chemical-resistant polymeric compound is 0.01 to 50 percent by weight relative to the porous film;

the coat of the chemical-resistant polymeric compound covering the porous film base is not porous and is formed by subjecting a solution of the chemical-resistant polymeric compound or a precursor thereof dissolved in a solvent which can dissolve the polymeric compound or a precursor thereof to a coat forming procedure, with or without further subjecting the coat formed to treatment with at least one selected from the group consisting of heat, ultraviolet rays, visible radiations, electron beams, and radioactive rays; and

the porous film maintains the properties of the porous film base .

2. (Currently Amended) The porous film of claim 1, wherein the chemical-resistant polymeric compound is at least one selected from the group consisting of phenolic resins, urea resins, melamine resins, benzoguanamine resins, polyimide resins, epoxy resins, benzoxazine

resins, ~~polypropylene resins~~, polyurethane resins, ~~fluororesins~~, alkyd resins, ~~cellulose-acetate resins~~, phthalic resins, maleic resins, silicone resins, triazine resins, furan resins, polyester resins, xylene resins, poly(vinyl alcohol)s, ethylene/vinyl alcohol copolymers, chitins, and chitosans.

3. (Original) The porous film of claim 1 or 2, wherein the porous film has a thickness of 5 to 200 μm .

4. (Cancelled)

5. (Withdrawn, Currently Amended) A method for producing the porous film of claim 1, comprising the steps of immersing a porous film base in a solution of a chemical-resistant polymeric compound, the porous film base comprising a multiplicity of communicating micropores having an average pore size of more than 0.01 [[to 10 μm]] and less than 5 μm , or spraying or applying the solution to the porous film base; and drying the resulting article to cover the porous film base with the chemical-resistant polymeric compound, without immersing the porous film base in a non-solvent of the chemical-resistant polymeric compound or a precursor thereof, and without immersing the porous film base in a solution containing a non-solvent of the chemical-resistant polymeric compound or a precursor thereof, to thereby yield the porous film.

6. (Withdrawn) A method for producing the porous film of claim 1, comprising the steps of immersing a porous film base in a solution of a precursor of a chemical-resistant polymeric compound, the porous film base comprising a multiplicity of communicating micropores having an average pore size of 0.01 to 10 μm , or spraying or applying the solution to the porous film base; drying the resulting article; and subjecting the dried article to treatment with at least one selected from the group consisting of heat, ultraviolet rays, visible radiations, electron beams, and radioactive rays to cover the porous film base with the chemical-resistant polymeric compound to thereby yield the porous film.

7. (Currently Amended) A porous film with chemical resistance, comprising a porous film base comprising a multiplicity of communicating micropores having an average pore size of 0.01 μm or more and 5 μm or less and produced by a phase conversion method in which mixtures containing the polymers are cast as films and then introduced to solidifying liquids, and a chemical-resistant polymeric compound covering the porous film base, wherein:

~~the porous film comprises a multiplicity of communicating micropores;~~

~~the micropores have an average pore size of 0.01 to 10 μm ;~~

the pure-water permeation rate of the porous film is 3.3×10^{-9} to 1.1×10^{-7} $\text{m} \cdot \text{sec}^{-1} \cdot \text{Pa}^{-1}$;

an average rate of open pores inside the porous film (porosity) is 30% to 80%;

an amount of the coat of the chemical-resistant polymeric compound is 0.01 to 50 percent by weight relative to the porous film;

the coat of the chemical-resistant polymeric compound covering the porous film base is not porous and is formed by subjecting a solution of the chemical-resistant polymeric compound

or a precursor thereof dissolved in a solvent which can dissolve the polymeric compound or a precursor thereof to a coat forming procedure, with or without further subjecting the coat formed to treatment with at least one selected from the group consisting of heat, ultraviolet rays, visible radiations, electron beams, and radioactive rays; and

the porous film maintains the properties of the porous film base.

8. (New) The porous film of claim 1 or 7, wherein the solution of the polymeric compound or a precursor thereof comprises between 0.1 percent by weight or more and 1 percent by weight or less of the polymeric compound or a precursor thereof.

9. (New) The porous film of claim 1 or 7, wherein the porous film with chemical resistance is produced by immersing a porous film base in a solution of a precursor of a chemical-resistant polymeric compound, the porous film base comprising a multiplicity of communicating micropores having an average pore size of $0.01\mu\text{m}$ or more and less than $5\mu\text{m}$, or spraying or applying the solution to the porous film base; drying the resulting article; and subjecting the dried article to treatment with at least one selected from the group consisting of heat, ultraviolet rays, visible radiations, electron beams, and radioactive rays to cover the porous film base with the chemical-resistant polymeric compound.

10. (New) The porous film of claim 7, wherein the chemical-resistant polymeric compound is at least one selected from the group consisting of phenolic resins, urea resins, melamine resins, benzoguanamine resins, polyimide resins, epoxy resins, benzoxazine resins, polyurethane resins, alkyd resins, phthalic resins, maleic resins, silicone resins, triazine resins, furan resins, polyester resins, xylene resins, poly(vinyl alcohol)s, ethylene/vinyl alcohol copolymers, chitins, and chitosans.